NAME _____ DATE _____ PERIOD ____

13 Chapter 13 Test, Form 1

SCORE _____

Assessments

Write the letter for the correct answer in the blank at the right of each question.

1. Which of the following could be the units of measure for the volume of a solid? 1. _____
   A. cubic inches **B.** square inches **C.** inches **D.** cubic seconds

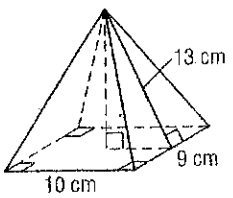
2. The area of the base of a prism is 96 square centimeters and the height is 9 centimeters. Find the volume. 2. _____
   A. 288 cm^3 **B.** 864 cm^3 **C.** 932 cm^3 **D.** 7776 cm^3

3. The volume of a cylinder is 62.8 cubic meters and the radius is 2 meters. Find the height to the nearest meter. 3. _____
   A. 20 m **B.** 10 m **C.** 8 m **D.** 5 m

4. A cylinder has a radius that is 4 inches long and a height that is 9 inches long. Find the volume to the nearest tenth. 4. _____
   A. 131.1 in^3 **B.** 226.2 in^3 **C.** 452.4 in^3 **D.** 1809.6 in^3

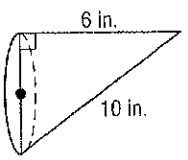
5. Find the volume of a pyramid with a height of 10 inches and a base with an area of 21 square inches. 5. _____
   A. 210 in^3 **B.** 105 in^3 **C.** 70 in^3 **D.** 35 in^3

6. Find the volume of the pyramid. 6. _____
   A. 360 cm^3 **B.** 390 cm^3
   C. 1080 cm^3 **D.** 1170 cm^3



7. A cone and a cylinder have the same radius and the same height. The volume of the cone is what fraction of the volume of the cylinder? 7. _____
   A. $\frac{1}{2}$ **B.** $\frac{1}{3}$ **C.** $\frac{1}{4}$ **D.** $\frac{1}{8}$

8. Find the volume to the nearest tenth. 8. _____
   A. 1206.4 in^3 **B.** 402.1 in^3
   C. 301.6 in^3 **D.** 100.5 in^3



9. A sphere has a radius that is 12 centimeters long. Find the volume to the nearest tenth. 9. _____
   A. 7238.2 cm^3 **B.** 3619.1 cm^3 **C.** 1809.6 cm^3 **D.** 603.2 cm^3

10. A sphere has a volume that is 36π cubic meters. Find the radius of the sphere. 10. _____
    A. 2 m **B.** 3 m **C.** 6 m **D.** 12 m

11. The radius of a sphere is increased from 6 inches to 8 inches. How much is the volume increased to the nearest tenth? 11. _____
    A. 3719.6 in^3 **B.** 1239.9 in^3 **C.** 117.3 in^3 **D.** 33.5 in^3

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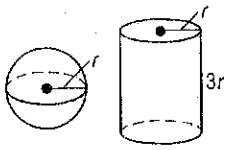
13 Chapter 13 Test, Form 1 *(continued)*

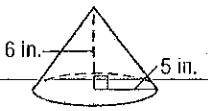
12. Which solid has the greater volume? **12.** _____

A. sphere **B.** cylinder

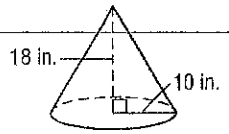
C. The volumes are equal. **D.** not enough information



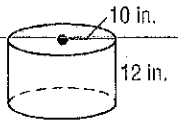
13. Which solid is similar to this solid? **13.** _____



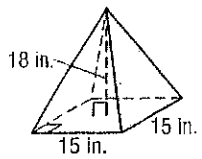
A.



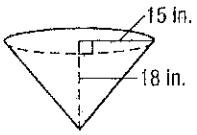
B.



C.



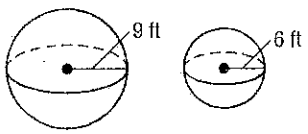
D.



14. Which of the following describes the two spheres? **14.** _____

A. congruent **B.** similar

C. both A and B **D.** neither A nor B



15. The ratio of the side lengths of two cubes is 3:7. Find the ratio of their volumes. **15.** _____

A. 3:7 **B.** 9:21 **C.** 9:49 **D.** 27:343

16. Two similar prisms have equilateral triangular bases and the edges of the bases are 50 centimeters and 20 centimeters. Find the ratio of the perimeters of the bases. **16.** _____

A. $5\sqrt{2}:2\sqrt{5}$ **B.** 5:2 **C.** 25:4 **D.** 125:8

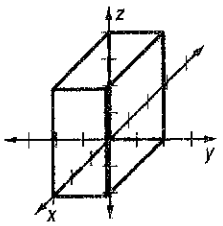
17. Find the coordinates of the image of $A(-3, 5, 6)$ under the translation $(x, y, z) \rightarrow (x - 3, y + 5, z - 1)$. **17.** _____

A. $A'(0, 0, 5)$ **B.** $A'(0, 10, 5)$ **C.** $A'(-6, 0, -7)$ **D.** $A'(-6, 10, 5)$

18. The graph of the rectangular solid contains the origin and which other point? **18.** _____

A. (3, 2, 4) **B.** (2, 4, 3)

C. (4, 3, 2) **D.** (3, 4, 2)



For Questions 19 and 20, $A(6, 5, 4)$ and $B(-2, 4, 0)$.

19. Find the coordinates of the midpoint of $\overline{AB}$. **19.** _____

A. $\left(4, \frac{1}{2}, 2\right)$ **B.** (8, 1, 4) **C.** (4, 9, 4) **D.** $\left(2, \frac{9}{2}, 2\right)$

20. Find the distance between A and B. **20.** _____

A. $\sqrt{13}$ **B.** $\sqrt{17}$ **C.** 9 **D.** $\sqrt{113}$

Bonus Describe the solid that could be formed by rotating this figure about line ℓ. **B:** _____